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Conference Abstract

Perivascular adipose tissue as regulator of the force of artery contractions in health and disease

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Abstract

During the last two decades, perivascular adipose tissue (PVAT) has been revealed as an important regulator of vascular processes such as proliferation of smooth muscle cells, pro- and anti-oxidant reactions in the vascular wall, angiogenesis, inflammation, apoptosis of neutrophils, migration of monocytes and others. PVAT derived mediators either increase or decrease the amplitudes of the force of artery contraction measured using isometric small vessel myography. In healthy animals and humans predominates the relaxing effect while in diseases the contractile influence of PVAT is common. In aging and pathological conditions like atherosclerosis and diabetes, or with environmental factors like tobacco smoke and high-fat diet, the phenotype of perivascular adipocytes is changed from anti-inflammatory to pro-inflammatory. This change is accompanied by a significant rearrangement of mediators released from PVAT.

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Keywords

artery, hydrogen peroxide, hydrogen sulfide, diabetes, aging

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Conflicts of interest

No